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## DIGITIZATION IN THE CUSTOMS RISK MANAGEMENT

## ЦИФРОВІЗАЦІЯ В УПРАВЛІННІ РИЗИКАМИ МИТНИЦІ

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Ukraine's customs goal is to create a smart custom that will fully identify its automaticity. Automation of customs procedures is an ongoing process due to the constant development of innovative technologies, the implementation of which requires a strategy of targeted development, overcoming existing problems and eliminating inaccuracies, helping to optimize customs activities in the context of European experience. The main aspects of the IT strategy for the development of Ukrainian customs are systematized, which should be optimized to international standards and ensure fast, high quality and transparent activities. It is proposed to introduce customs cards in Ukraine as one of the innovative ways to develop the customs sphere and ensure economic relations between these spheres. Special attention in customs automation should be paid to information security, as along with the development of digital technologies, digital forensics is actively advancing and the level of Internet danger is growing. The use of modern technologies has the advantage of saving time, and also allows you to compare the possibilities of electronic document management, declaration and remote payment of necessary customs duties.

**Keywords:** customs, digitalization, risk management, E-customs, innovative technologies, COVID-19.

Процес цифровізації викликає постійну потребу в розробці нових цифрових пропозицій для стимулювання економічного розвитку України, що важливими складовими є банківська та митна сфера. Перехід на впровадження цифрових рішень сприяє оптимізації робочого процесу, зниженню операційних витрат, забезпеченню високоякісного обслуговування клієнтів, а також підвищенню попиту на кваліфікованих фахівців, здатних працювати в банківській та митниці з використанням сучасних цифрових технологій. Метою статті є визначення основних аспектів інноваційної діяльності митної сфери України та систематизація перспектив розвитку цифрової економіки України на основі системи Е-митна. Визначено низку ІТ-продуктів, які мають значний вплив на оптимізацію митних процедур з високим рівнем клієнтоорієнтованості. На основі профілів ризиків сформовано схему високого рівня процесу митного контролю, за допомогою якої органи митного контролю здійснюють практичне управління ризиками. набір індикаторів ризику на основі систематизованої, категоризованої, проаналізованої інформації формує профілі ризиків, що є невід'ємною частиною системи управління ризиками. Невід'ємною складовою ефективного функціонування системи митного контролю та управління ризиками є наявність розвиненої інформаційної інфраструктури, активне впровадження нових технологій, систематичне навчання, професійне зростання фахівців, а також взаємодопомога між країнами-учасниками зовнішньоекономічної діяльності. Визначено пріоритети державної митної сфери в умовах пандемії COVID-19, а саме ін-

тенсифікація процесу електронного надання послуг та оформлення документів з метою скорочення контактів, скорочення часових та фінансових витрат тощо. полягає у розширенні адаптованого до міжнародних стандартів поняття «митниця – бізнес», що сприятиме розвитку зовнішньоекономічної діяльності, покращенню міжнародної торгівлі та призведе до виходу України на новий рівень міжнародної торгівлі, виходу імпортованих товарів на національний ринок, збільшення експорту. та безпечно розповсюдження на міжнародних ринках. Використання сучасних технологій має перевагу в економії часу, а також дозволяє порівняти можливості електронного документообігу, декларування та дистанційної сплати необхідних митних платежів.

**Ключові слова:** митна справа, діджиталізація, управління ризиками, Е-митниця, інноваційні технології, COVID-19.

**Introduction.** The administration of customs payments in Ukraine is mostly using outdated forms and methods of registration, which provokes negative trends in customs development, including the accumulation of queues at checkpoints, increasing corruption, Ukraine's lag behind European ratings and more. The introduction of innovative technologies should provide automatic robotic equipment for checking goods when crossing the customs border, facilitate the creation and implementation of scanning of all necessary customs documents in electronic form, determination of customs value and product code using artificial intelligence technology and more.

IT specialists of the State Customs Service of Ukraine are currently working on the concept of implementation and enforcement of the Strategy for Digital Development of Customs of Ukraine until 2022 to transform it into a modern digitalized service of European standard [12]. The IT strategy is being developed in key areas included in the Association Agreement between Ukraine and the EU, the main of which are the automation of procedures for protection of intellectual property rights when crossing the customs border, joining the NCTS and the operation of automated operators.

**Analysis of recent researches and publications.** Problems of informatization, automation and digitalization of the customs system of Ukraine are the subject of research of many scientists, practitioners and specialists, such as Kopniak K., Pokynchereda V. (2020) [3], Ivashova L. M., Kijda L. I. (2019) [7], Lemeha R. (2020) [8], Nazarova I. Ja. (2020) [10], Semenog A. Ju. (2020) [13]. It should be noted that scientists are increasingly interested in the problems of automation and digitalization of customs procedures, innovative development of customs policy on the basis of increasing the level of its informatization in accordance with the modern aspirations of developed countries. At the same time, the authors' research and publications mainly cover the issues of improving customs policy in the field of automation and simplification of customs proce-

dures for foreign economic entities. The issues of simplification and informatization of customs procedures in the context of customs control and risk management are insufficiently studied. Today, the study of digitalization of customs control mechanisms with the effective use of the functionality of the information platform "electronic customs" and the implementation of the electronic service "smart customs" is promising.

**The purpose of the article** is to determine the main aspects of innovation of the customs sphere of Ukraine and systematization of prospects for the development of the digital economy of Ukraine on the basis of the E-customs system.

**Results.** In 2018, in order to the World Customs Organization (WCO) conference, the importance of digitalization of all customs in the world was identified. Construction of the "smart customs" system in Ukraine and its implementation fully meets the requirements of the WCO on the principle of modern customs in terms of information development [4].

Ukrainian custom is currently at the initial stage of innovation and in a complex transformation process. For years, the customs sphere of Ukraine has not undergone the implementation of innovative digital solutions, so the IT reform of customs should become one of the most global reforms in Ukraine. Its implementation requires a sufficient supply of qualified personnel, which is also a complicating aspect for Ukraine due to their lack. Customs of Ukraine should consist of highly qualified customs officers, as well as include specialists in technology development, whose main activity should be to monitor the development of innovations, determine their feasibility for implementation in customs, develop relevant projects and attract investment for their implementation [11]. Blockchain, 3D printing and cloud computing are examples of modern innovations that can find appropriate application in the customs sphere of Ukraine. In the near future, the implementation of geospatial data technologies, artificial intelligence, the use of robotics, etc. will be required. Thus, the issue of full-scale digitalization of customs is quite diffi-

cult for Ukraine, but a priority and relevant for further economic development.

The future IT system will have a significant impact on the optimization of customs procedures with a high level of customer focus. So far, a lot of IT products have been released such as [5]:

- launch of an updated web portal of the State Customs Service of Ukraine, where the protection of information data is strengthened, the reliability of the service is increased, the design is optimized for the needs of users and it is possible to receive some services remotely;

- development of a map of customs infrastructure facilities, containing complete information on checkpoints, internal places of customs clearance and international postal exchange;

- activity of BusinessIntelligence (BI), that is an interactive analytical project and contains available statistics of Ukraine on trade with other countries;

- introduction of an online customs value calculator, that with reliable information provides data on the minimum, average and maximum value of the car for the last few years;

- activity of the system of online complaints, that provides for communication in electronic form in a short time.

The new IT system of customs also provides for the expansion of the number of services to be provided online. Activity continues on the development of the neural network, that will automate the process of determining and verifying the classification code of the goods, will be able to automatically describe the goods, which will help optimize the work of the customs officer and the declarant. The prospect is to create and implement a similar system that can automatically determine the

country of origin of goods. Implementing these innovative solutions is a complex process, as the concept of work must be built on a solid foundation of database protection to avoid cyber fraud.

Another innovation of the customs IT system should be the launch of an automated risk management system ASUR 2.0, that will digitize and optimize the analysis of violations of customs rules using automated mathematical approaches to risk assessment, management, accounting and monitoring.

It should be noted that risk assessment will be effective if the system of risk indicators is formed and put into practice, which means the specific criteria used to select and develop practical measures to prevent non-compliance with customs legislation. These include the product code according to the product nomenclature; country of origin; country of dispatch of goods; availability of a license, cost of goods.

A set of risk indicators based on systematized, categorized, analyzed information forms risk profiles, which is an integral part of the risk management system. With the help of risk profiles, the customs control authorities carry out practical risk management (Figure 1).

An integral element of the effective functioning of customs control and risk management system, in particular, is the availability of developed information infrastructure, active implementation of new technologies, systematic training, professional growth of professionals, as well as mutual administrative assistance between countries participating in foreign economic activity (Figure 2).

The State Fiscal Service of Ukraine will develop and improve the risk management system in the field of customs control. The Government has

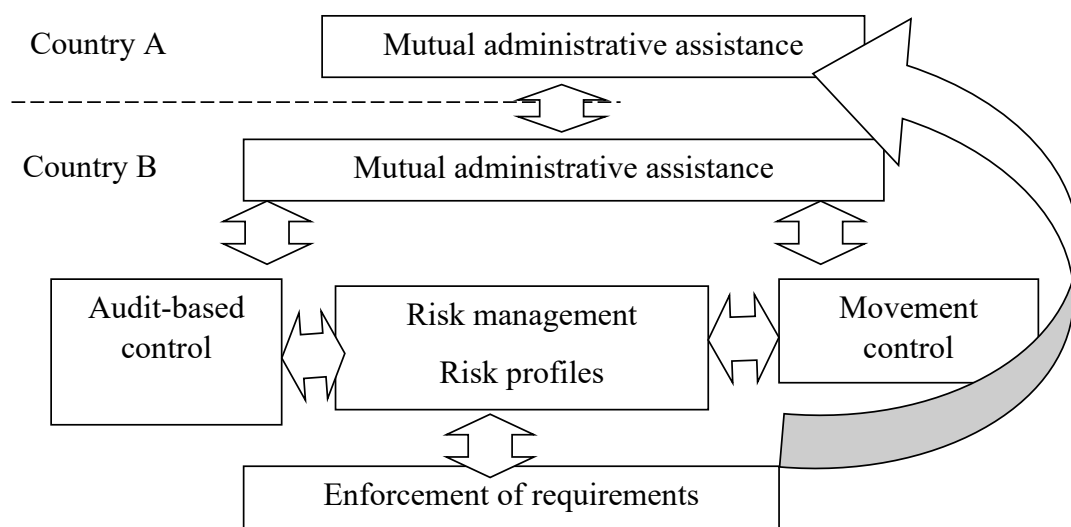


Figure 1. High-level scheme of the customs control process

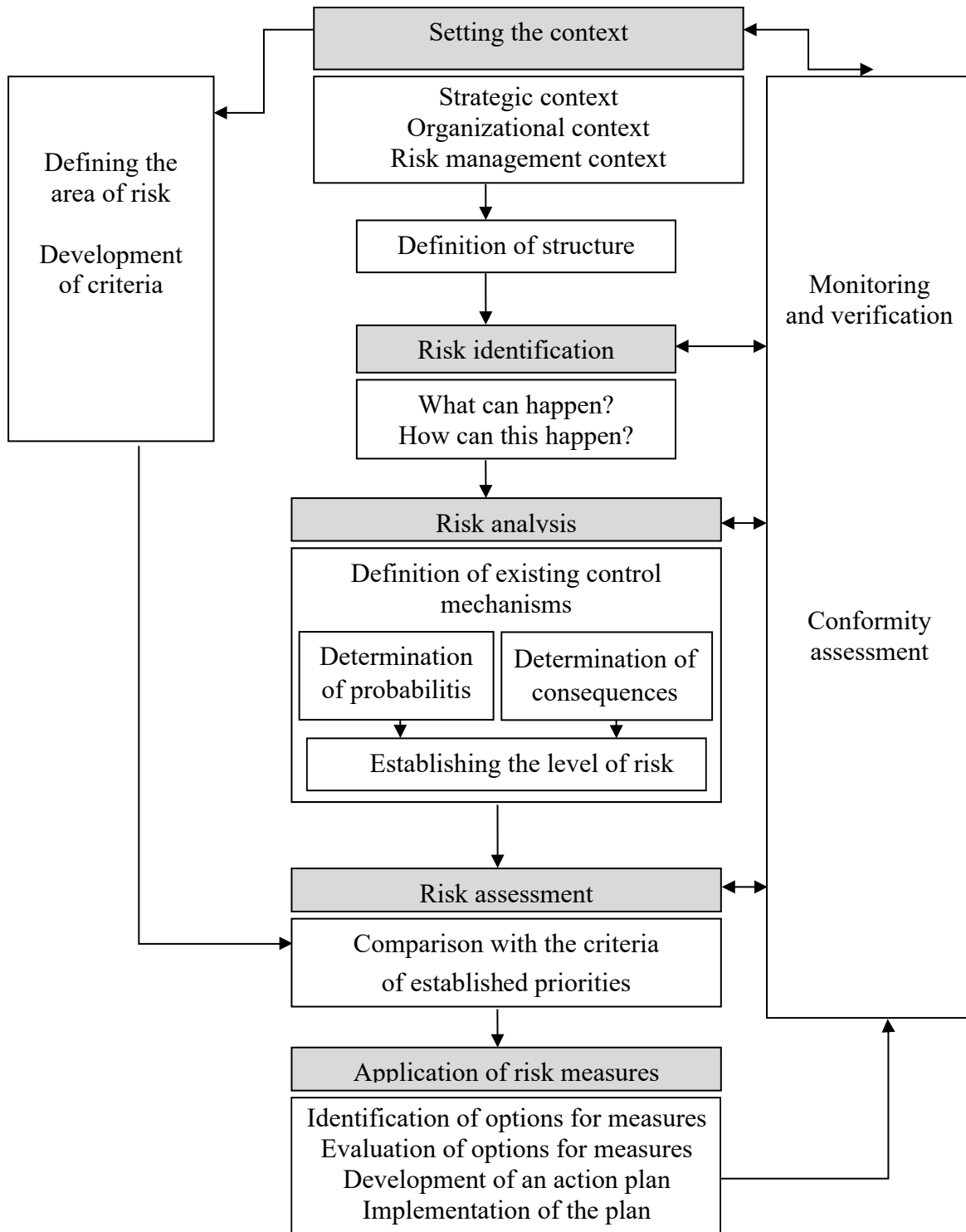


Figure 2. Low-level scheme of risk management process

approved the relevant Risk Management System Development Strategy, the implementation of which is designed for 5 years – until 2022. The document is based on the best international practices and EU legislation, IMF recommendations and Twinning project experts on supporting the SFS in the development of elements of integrated border management in the customs sphere.

The State Fiscal Service of Ukraine has created and successfully operates the Unified Automated Information System (The system will include: updated portal "Single Window for International Trade", automated customs clearance system (ASMO 2.0), automated risk management system (ASUR 2.0), registry management system and services of the State Customs

Service of Ukraine, the customs audit system), which combines all the software and hardware components needed to automate the processes of customs clearance and control.

This allows you to have all the information about the types of controls that were carried out from the first border crossing to the release for free circulation of any goods.

This system is a functional analogue of such advanced European customs clearance systems as the German "ATLAS" and the Polish "TSE-LINA", which are a model and example to follow in the development of any customs IT system.

One of the main modules of ASMO was the integrated Automated Risk Analysis and Management System (ASAM), which allows you to create risk profiles of arbitrary complexity using innovative approaches such as fuzzy logic algorithms and taking into account the positive and negative history of previous customs clearance.

The ASMO system effectively operates a system of electronic (paperless) declaration of goods, more than 95% of customs declarations are processed in electronic form. Significant work has also been done in the direction of integration of ASMO with tax information-analytical systems, such as the "Tax Block", the system of electronic administration of VAT and excise tax. It also made it possible to account for transactions with goods, according to electronic appli-

cations. Today, more than 1,100 criteria and links to dozens of databases of various bodies and institutions are used in the process of format and logical control of the customs declaration.

**Conclusion.** In the context of the European integration process of Ukraine and the COVID-19 pandemic, the priorities of the state customs sphere are mainly aimed at intensifying the process of electronic provision of services and paperwork to reduce live contacts, reduce time and financial costs and more. Priority is given to expanding the concept of "customs – business". Domestic legal norms should be adapted to international standards, which will contribute to the development of foreign economic activity, improve international trade and lead to Ukraine's entry into a new level of international trade, entry of imported goods into the national market, increase exports and its safe distribution in international markets [1]. Current trends in customs regulation and the creation of a favorable business climate should continue to develop in Ukraine, based on world best practices and maintaining a balance of interests between the state and Ukrainian business.

Thus, the use of modern technologies has the advantage of saving time, and also allows you to compare the possibilities of electronic document management, declaration and remote payment of necessary customs duties.

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